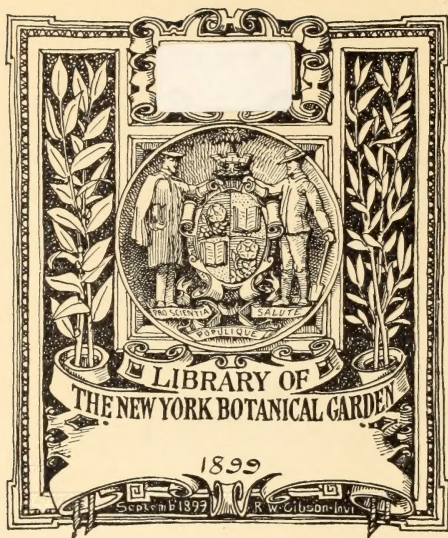


Parry

...Catalogue of
plants of Wisconsin
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REPORT

OF A

GEOLOGICAL SURVEY

OF

WISCONSIN, IOWA, AND MINNESOTA.

BY AUTHORITY OF CONGRESS.

*Parry
Systematic collection of Plants*

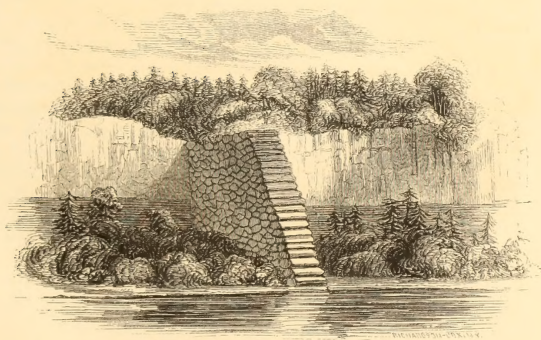


FALLS OF PIGEON RIVER.

REPORT
OF A
GEOLOGICAL SURVEY
OF
WISCONSIN, IOWA, AND MINNESOTA;
AND INCIDENTALLY OF
A PORTION OF NEBRASKA TERRITORY.

MADE UNDER INSTRUCTIONS FROM THE UNITED STATES TREASURY DEPARTMENT.

BY
DAVID DALE OWEN,
UNITED STATES GEOLOGIST.



PHILADELPHIA:
LIPPINCOTT, GRAMBO & CO.
1852.

REPORT

GEOLOGICAL SURVEY

WISCONSIN, IOWA, AND MINNESOTA

A PART OF THE LANDS BELONGING TO THE UNITED STATES

MADE IN ACCORDANCE WITH AN ACT OF CONGRESS, PASSED MARCH 3, 1879

DAVID PAGE, CHIEF

PHILADELPHIA:

C. SHERMAN, PRINTER,

19 St. James Street.

It is to be regretted that time did not permit me to repeat these analyses on different varieties of specimens, and by different methods. However, I am able to furnish another analysis, of a compact portion of the tibia of *Archæotherium*, carefully freed from all extraneous matter, made with great care in Dr. Genth's laboratory, and under his immediate supervision, by Dr. Francis V. Greene, which has resulted very satisfactorily, and in which the fluorine was estimated by precipitation.

Water,	.	.	.	.	.	.	.	.	.	H = 1.97
Organic matter,	.	.	.	.	.	.	.	.	.	= 4.09
Phosphoric acid,	.	.	.	.	.	.	.	.	.	P = 31.19
Silicic acid,	.	.	.	.	.	.	.	.	.	Si = 0.26
Carbonic acid,	.	.	.	.	.	.	.	.	.	C = 2.77
Sulphuric acid,	.	.	.	.	.	.	.	.	.	S = 2.19
Fluorine,	.	.	.	.	.	.	.	.	.	F = 2.46
Chlorine,	.	.	.	.	.	.	.	.	.	Cl = 0.02
Lime,	.	.	.	.	.	.	.	.	.	Ca = 50.83
Magnesia (with a trace of Mn),	.	.	.	.	.	.	.	.	.	Mg = 1.14
Baryta,	.	.	.	.	.	.	.	.	.	Ba = 1.10
Potash,	.	.	.	.	.	.	.	.	.	K = 0.28
Soda,	.	.	.	.	.	.	.	.	.	Na = 1.57
Iron and alumina,	.	.	.	.	.	.	.	.	.	a trace.
										99.87

These analyses are remarkable: first, in showing the existence of a notable quantity of fluorine, amounting to from 2 to 3 per cent., sufficient to etch glass very distinctly, when the bones are treated with strong sulphuric acid, and gently heated: second, in proving the existence of from 2 to 4 per cent. of the original organic matter, and from 31 to 37 per cent. of the phosphate of lime in the bones of animals, which have been entombed in these early tertiary deposits ever since the Alps first began to lift their heads out of the ocean, and in which they have been enclosed, the almost inconceivable length of time that has elapsed during a vast geological epoch, in which that great mountain chain of Europe has been gradually thrusting its peaks to ten or twelve thousand feet above the ocean; and while the Andes of South America, during the same period, have attained probably even a greater elevation.

Reflecting on the origin of the fluorine discovered in these Nebraska fossil bones, it becomes a question whether it is an original constituent of the bones of the living animal, or has been introduced into their composition after death. Since the analysis of the bones of existing animals indicates but a mere trace of fluorine, it seems more probable that that element has been introduced as fluoride of calcium by infiltration during the gradual process of fossilization, after the manner of pseudomorphism in minerals, the fluoride of calcium gradually replacing the organic matter, as transformation proceeded, than that it should have been an original constituent of the bones of the living animal. Still, the subjoined analyses of the enclosing matrix gives no evidence whatever of the existence of fluorine in these deposits now.

If the fluorine has really been derived from these deposits, we are forced to the conclusion that it has all been removed by the process of pseudomorphism. May we not, however, rather look to the saline waters, now common in that country, as the source of the fluorine; or, perhaps, to the waters of the lake, bay, or estuary, in which the bones may have lain macerating, previous to their long interment?

It is worthy also of note that Dr. Greene's analysis shows the presence of sulphate of baryta in the compact portion of the bone he analyzed; and Dr. Genth discovered minute crystals of sulphate of baryta in the cavities of some of the bones by the aid of a strong magnifier.

ANALYSIS OF MATRIX OF SKULL OF OREODON.

Water of absorption,	H =	2.50
Flesh-coloured, siliceous earth, insoluble in HCl. . . . .	. =	33.00
Lime,	Ca =	30.90
Carbonic acid,	C =	19.00
Sesquioxide of iron,	Fe =	2.00
Alumina,	Al =	1.00
Manganese,	Mn =	1.00
Magnesia,	Mg =	1.00
Phosphoric acid, . . . . .	. =	1.80
Chlorine,	Cl =	0.44
Potash,	K =	4.08
Loss and soda,	Na =	3.28
		100.00

ANALYSIS OF MATRIX OF SCAPULA
OF PALEOTHERIUM.

. . . . .	. =	4.00
Silica, . . . . .	. =	59.00
. =	10.00
. =	12.20
. =	7.20
. =	4.20
. =	1.90
. =	0.037
Sulphuric acid, =	0.03
Loss and alkalies, =	1.433
		100.000

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ARTICLE V.

SYSTEMATIC CATALOGUE OF PLANTS OF WISCONSIN AND MINNESOTA, BY C. C. PARRY, M.D.,
MADE IN CONNEXION WITH THE GEOLOGICAL SURVEY OF THE NORTHWEST, DURING THE
SEASON OF 1848.

THE accompanying list of plants embodies the observations I have been able to make during the past season, in connexion with the Geological Survey of the Northwest, under the direction of Dr. Owen.

I have also incorporated some personal observations made during a previous season in the State of Iowa; being properly comprised within the District of the Northwest; and enabling me to present a more complete view of the botanical features of this region, than could otherwise be done during a single season's operations.

The precise region of country covered by these observations, will be sufficiently indicated by the sub-joined localities. The time of collection, with other points of special interest, also accompany each separate name, in the order in which they stand.

The order followed is the *Natural System*; and the authority used, "*Torrey and Gray's North American Flora*," and "*Gray's Botany of the Northern United States*."

Being desired by Dr. Owen's instructions to have special reference to the geological relations of the plants observed, a few preliminary suggestions on this point will not be deemed out of place.

It is evident on the slightest observation, that all the relations of accompanying vegetation to geology are to be sought through the common medium of the *soil*: in so far only as any geological formation is capable of giving a distinctive character to this medium, may we expect to find geological characters equally marked on the vegetation. This fact has been particularly noticeable in the region of country traversed during the past season. The passage from one geological formation to another—especially when distinctly marked—is always accompanied with a change in the botanical features, perhaps proportioned to the extent of exposure, but still more obviously connected with evident difference in the overlying soil, dependent on this geological change.

Another example is found in the modifying influence of trap ranges upon the superincumbent vegetation, which influence is at times so marked, that even when not exposed, the direction and width of the range can be traced with considerable certainty by their means alone.

The drift deposits, which, in their varying character in different parts, give such a striking feature to northwestern scenery, are always clothed with a characteristic vegetation. Thus, on the gravelly ridges of the Upper St. Peter's, which in their main development go to form that singular character of scenery known as the "*Coteau des Prairies*," dividing the tributaries of the Upper Mississippi from those of the Missouri, we invariably meet with many or all of the following grouped plants, viz., *Custilleja Sessiliflora*, *Psoralea esculenta*, *Eriogonum serrulatum*, *Oxytropis Lamberti*, *Lygodesmia juncea*, *Bouteloua oligostachya*, and others less fixed.

To the eastward, the corresponding water-shed between Lake Superior and the Mississippi, furnishes a growth of *Pinus Banksiana*, with an associated undergrowth of *Vaccinium tenellum*, *Gaultheria procumbens*, *Lycopodium*, etc. The two deposits thus furnishing as marked a contrast in their vegetation, as in their geographical position or geological features.

These points, with others that may be illustrated from the accompanying list, show that there is a very observable relationship between the Flora of a country and its geology.

But it is farther to be observed that botany, from its peculiar intermediate position, connected and dependent, alike for all its varied features, both on the atmosphere and soil, is called to maintain corresponding relations to each; being at the same time subject to the modifying influence of atmospheric conditions and variations of soil. Thus called to supply such varying indications, it must necessarily be less intimate in its connexion with any one; variety in this, as in every case, must be at the expense of definiteness.

An interesting illustration of this fact is to be noticed on the shores of Lake Superior, where we meet with a singular blending of *Littoral* and *Alpine* plants: thus we find *Lathyrus maritimus* (*Beach-pea*), and *Hudsonia ericoides*, common to the Atlantic sea-beach, and intimately connected with a similarity of soil; and side by side with these, *Potentilla tridentata* and *Clastonia rangiferina*, peculiar to Alpine and Arctic regions, in connexion with a similarity of climate. Such instances might be multiplied, all showing that the true province of botany, as a branch of physical geography, is with its own proper knowledge, to combine that varied information, that cannot be otherwise gleaned from any one department of Natural History.

It is this view, no doubt, that gives to the botany of a new country its chief interest, and makes a *suite* of native plants valuable *portable indices* of the country they inhabit, of its agricultural capacities, climate, and external features, affording a ready means of comparison or contrast with other countries. May they not, when enlarged experience has traced with more accuracy these relations, and especially when we keep in view the principle so much insisted on in geology, viz., to depend more on the *grouping* of specimens, and drawing nice distinctions, than in isolated examples,—may they not take the same rank to agriculture that fossils do to geology?

This principle always has been in general application. By it the farmer naturally judges of the fertility or barrenness of unploughed fields, while to an experienced botanist, a complete suite of the plants of any country would convey a greater amount of interesting general information, and impart more definite notions of a country, than can be drawn from any single source.

The Indian uses, economical and medicinal, of the plants observed, are made a special item in my instructions, and on this point some interesting and unexpected facts have been noted. This is particularly true of the native articles of diet, nearly all of which I have been enabled to refer to their scientific place, in connexion with the Indian name in most common use, and a brief enumeration of their uses.

There is one fact in this connexion that has struck me as a matter of much interest, and I briefly advert to it here. Of the native vegetable productions of this region, several of the most useful in an economic or commercial point of view are connected with those features of country which seem least desirable. Thus the excellent *cranberry* occupies its irreclaimable marshes; the delicious *huckleberry* its barren ridges; while the staple *wild rice* edges its innumerable lakes. The suggestion might be carried further, but these will be sufficient to draw forth an obvious inference.

With regard to the medicinal articles used, my information is less important, due not so much to the nature of the subject as the difficulty of obtaining accurate information. Medicine, in the mind of the Indian, is always connected with superstitious observances, and is inseparably blended with his religious notions. The efficacy of the simplest remedies are attributed to some supernatural agency, and, as a consequence, more credit is given to the manner of administering, or unmeaning ceremonies connected with

it, than to the thing itself. With all this, an air of mystery is thrown over the subject, combining to render reliable information, on the one hand, difficult to obtain, and on the other, good for nothing when obtained. The subject in fact belongs more properly to the *moral* than the *natural* philosopher, and I have contented myself with a single specification of alleged virtues, without taking the trouble to classify them.

Particular attention has been given to the class of ferns, from their more intimate relation with geology, of which, including the allied orders, *Equisetaceæ* and *Lycopodiaceæ*, thirty-eight different species have been observed, including some of much interest.

The class of *forest trees* having been designed for a special report, they are merely included in my list in their proper natural order, without reference to their comparative geographical distribution or relative economical value.

The number of plants comprised in this list is seven hundred and twenty-seven, included in one hundred and six natural orders; many of these have never before been referred to this region.

I am indebted to the distinguished botanist, Dr. John Torrey,—and what American botanist is not?—for the authentication of my doubtful specimens, particularly in the class of *grasses* and *sedges*.

My acknowledgments are also due to Mr. William S. Sullivan, of Ohio, for labelling my entire collection of *mosses*.

To Dr. S. B. Mead, of Illinois, I also owe thanks for interesting information, and obliging assistance, in making out this report.

For Indian names, I have relied mainly on information derived from the hospitable Missionaries, Rev. R. Hopkins, of Traverse des Sioux, and Mr. Ely, of La Pointe, Lake Superior.

EXOGENS.

RANUNCULACEÆ.—*Atragene Americana*, (Sims.) May 18th. Shady rocks at the head of Lake St. Croix. *Clematis Viorna*, (L.) June 9th. Banks of the Mississippi, near Davenport, Iowa. *Clematis Virginiana*, (L.) Copses. July. *Pulsatilla patens*, (Mill.) May 15th. In fruit. Galena, Ill. This characteristic and handsome plant occurs abundantly to the north and west of the locality specified, preferring high prairies and gravelly ridges, which, in early spring, it adorns with its elegant blue flowers, or later, with its no less beautiful plumed fruit. It possesses the acrid properties, and probably equal medicinal qualities, with a closely allied European species. It is said by the Indians frequently to occasion sores on the lips of children, attracted by their showy blossoms. It may farther be mentioned as an interesting fact in connexion with its geographical range, that the same plant is found in New Mexico, specimens from that locality having been shown me by Dr. Englemann, of St. Louis. *Anemone Caroliniana*, (Walt.) May 3d. Mississippi River bank, Davenport, and Rock Island. The geographical range of this interesting species is deserving of notice. First known as a native of the Carolinas, it is again met with in Louisiana, Texas, and Arkansas, thence finding its way to the Missouri and Platte Rivers; the locality, just specified, probably determining its northeastern limits. It here grows always associated with *Draba Caroliniana*, and *Androsace occidentalis*; a significant relationship, connecting as it were the two extremes, Carolina and Nebraska. *Anemone nemorosa*, (L.) May. Woods. *Anemone cylindrica*, (Gray.) June. A characteristic plant of dry rolling prairies, throughout the Northwest. *Anemone Virginiana*, (L.) July. Woods of Iowa. *Anemone Pennsylvanica*, (L.) June. River banks. *Hepatica triloba*, (Chaix.) April. Woods and hills. *Thalictrum anemonoides*, (Michx.) April. Common. *Thalictrum dioicum*, (L.) May. Copses, Lake St. Croix. *Thalictrum Cornuti*, (L.) June. River banks. *Ranunculus aquatilis*, (L.) July. Still brooks and ponds. *Ranunculus Parshii*, (Richards.) June. Stagnant brooks. *Ranunculus reptans*, (L.) August. Sandy shores of lakes, St. Croix. *Ranunculus cymbalaria*, (Pursh.) July 5th. Little Rock, Upper St. Peter's. This species is generally associated with salines, but this locality seemed to be an exception. *Ranunculus abortivus*, (L.) May. Woods and copses. *Ranunculus Pennsylvanicus*, (L.) August. St. Croix river banks. *Ranun-*

culus fascicularis, (Muhl.) April. Dry river banks. *Ranunculus repens*, (L.) May. Wet places, common. *Caltha palustris*, (L.) May. Swamps. *Coptis trifolia*, (Salisb.) Bogs. St. Croix. *Isopyrum bitematum*, (Torr. and Gr.) Shady woods, Blue Earth River. *Aquilegia Canadensis*, (L.) June. Rocks. *Delphinium azureum*, (Michx.) June. A characteristic Larkspur, growing on sandy ridges or high prairies, Iowa and Illinois. *Actæa rubra*, (Willd.) May. Woods and Copses, Iowa. *Actæa alba*, (Bigel.) With the preceding.

ANONACEÆ.—*Asimina triloba*, (Duval.) April. "Papaw." Head of Des Moines Rapids, Mississippi River.

MENISPERMACEÆ.—*Menispermum Canadense*, (L.) May. A common vine. The root is a popular tonic.

BERBERIDACEÆ.—*Leontice thalioides*, (L.) April. Woods. *Podophyllum peltatum*, (L.) May. Rich woods, the fruit eatable; the root cathartic.

CABOMBACEÆ.—*Brasenia peltata*, (Pursh.) July. "Water shield." Floating on shallow lakes, St. Croix.

NYMPHEACEÆ.—*Nymphaea odorata*, (Ait.) July. Water lily. *Nuphar advena*, (Ait.) July. Yellow water lily.

SARRACENIACEÆ.—*Sarracenia purpurea*, (L.) June. Pitcher plant. Bogs of the St. Croix.

PAPAVERACEÆ.—*Sanguinaria Canadensis*, (Linn.) April. The medicinal blood root.

FUMARIACEÆ.—*Dicentra Cucullaria*, (D. C.) April. Rich woods. *Corydalis aurea*, (Willd.) May. River banks. A very variable plant, according to the character of the soil in which it grows. *Corydalis glauca*, (Pursh.) August. Trap rocks, at Falls of St. Croix.

CRUCIFERÆ.—*Nasturtium sinuatum*, (Nutt.) July 14th. River bank, Lower St. Peter's. Found also in similar situations in Oregon. *Nasturtium palustre*, (D. C.) July. River banks. *Nasturtium natans*, (D. C.) July. A singular aquatic species, more common in the West than at the East. *Cardamine rhomboidea*, (D. C.) May. Wet places in prairies, Iowa. *Cardamine hirsuta*, (L.) May. Moist margins of brooks. *Dentaria laciniata*, (Muhl.) April. Rich woods. *Arabis lyrata*, (L.) May. Rocks. Galena, Ill. *Arabis dentata*, (Torr. and Gr.) June. River banks. *Arabis hirsuta*, (Scop.) May. Rocky places, head of Lake St. Croix. *Arabis lævigata*, (D. C.) May. Rocky river-banks. *Arabis Canadensis*, (L.) June. St. Peter's and St. Croix. *Erysimum cheiranthoides*, (L.) July. River banks. *Sisymbrium canescens*, (Nutt.) May. Pastures and river-banks, Davenport, Iowa. *Draba Caroliniana*, (Walt.) April. Dry and exposed banks of the Mississippi, Davenport, and Rock Island. *Lepidium Virginicum*, (L.) Waste places. *Capsella bursa-pastoris*, (Möench.) Fields and streets.

CAPPARIDACEÆ.—*Polanisia graveolens*, (Raf.) July. Gravelly banks of the Upper Mississippi.

VIOLACEÆ.—*Viola cucullata*, (Ait.) April. Low grounds. *Viola pedata*, (L.) May. A showy species, adorning the rolling prairies of Iowa with its early blue blossoms. *Viola delphinifolia*, (Nutt.) May. Davenport and Upper Mississippi. Closely resembling the former, but readily distinguished on a close examination. *Viola Canadensis*, (L.) June. St. Peter's. *Viola Muhlenbergii*, (Torr.) May. Lake St. Croix.

CISTACEÆ.—*Helianthemum Canadense*, (Michx.) June. Dry hills and prairies. Iowa and Minnesota. *Hudsonia ericoides*, (L.) Common to the shores of Lake Superior, the barren ridges of the St. Croix, and the Atlantic sea-beach. *Lechea minor*, (Lam.) July. "Pin-wee." St. Croix.

DROSERACEÆ.—*Drosera rotundifolia*, (L.) July. "Sun-dew." Moist sand on the margins of lakes. Minnesota. *Parnassia Caroliniana*, (Michx.) August. Wet places on prairies. St. Peter's and St. Croix.

HYPERICACEÆ.—*Hypericum pyramidatum*, (Ait.) July. River banks Upper Mississippi and St. Peter's. *Hypericum Canadense*, (L.) August. St. Croix River. *Elodea Virginica*, (Nutt.) July. Swamps in the Northwest.

CARYOPHYLLACEÆ.—*Silene stellata*, (Ait.) July. Woods and river banks. *Silene nivea*, (D. C.) July. Ravines. Davenport, Iowa. *Silene antirrhina*, (L.) June. Dry soil and exposed rocks. Iowa and Minnesota. *Arenaria stricta*, (Michx.) July. Rooting on detached rocks, head of Lake St. Croix. *Mœhringia lateriflora*, (Feuzl.) May. Wet places, St. Croix. *Stellaria longifolia*, (Muhl.) May. Moist, grassy places, Upper Mississippi. *Cerastium nutans*, (Raf.) May. Moist, sandy places, Upper Mississippi. *Mollugo verticillata*, (L.) August. Exposed rocks and sandy fields, St. Croix.

PORTULACACEÆ.—*Portulaca oleracea*, (L.) Crevices of rocks on the Upper St. Peter's. *Talinum*

parviflorum, (Nutt.) July 1st. Crevices of the exposed granite and quartzite rocks, Upper St. Peter's, associated with *Lycopodium rupestre* and *Woodsia ilvensis*; differing from the more common *T. teretifolium*, in the characters specified by Nuttall, but still doubtful as a distinct species. *Claytonia Virginica*, (L.) April. Rich hillsides.

MALVACEÆ.—*Abutilon Avicennæ*, (Gaertn.) July. Yards and roadsides, abundantly naturalized about western towns.

LINACEÆ.—*Linum rigidum*, (Pursh.) July. "Yellow flax." High prairies of Iowa.

GERANIACEÆ.—*Geranium maculatum*, (L.) May. Copses and fields. *Geranium Carolinianum*, (L.) May. Waste places, Iowa. *Geranium Robertianum*, (L.) August. Shady crevices of trap-rocks, Falls of St. Croix.

OXALIDACEÆ.—*Oxalis Acetosella*, (L.) "Wood-sorrel." Rooting in moss, in deep woods, Lake Superior. *Oxalis violaceæ*, (L.) May. Dry banks, Iowa. *Oxalis stricta*, (L.) Waste places.

BALSAMINACEÆ.—*Impatiens pallida*, (Nutt.) August. Springy places, St. Croix. *Impatiens fulva*, (Nutt.) With the preceding.

ZANTHOXYLACEÆ.—*Zanthoxylum Americanum*, (Mill.) April. "Prickly ash." Forming troublesome thickets on river-banks throughout the Northwest. *Ptelia trifoliata*, (L.) June. Dry river-banks. Called "water-ash," from the singular appearance of its fruit.

ANACARDIACEÆ.—*Rhus typhina*, (L.) June. St. Croix. *Rhus glabra*, (L.) The most common species of *sumac*. The milky juice from the fresh-cut branches affords an indelible ink. *Rhus Toxicodendron*, (L.) "Poison-ivy." Very abundant on all river-banks, thickets, &c. *Rhus venenata*, (D. C.) "Poison-ash." Deep, swampy woods, St. Croix. *Rhus aromatica*, (Ait.) June. Sandy shore of Red Cedar River, Iowa.

ACERACEÆ.—*Acer spicatum*, (Lam.) Upper St. Croix and Lake Superior. *Acer saccharinum*, (L.) Interior of Iowa, Upper St. Croix, &c. *Acer dasycarpum*, (Ehr.) Alluvial river-bottoms throughout the Northwest. *Acer rubrum*, (L.) Falls of St. Croix. *Negundo aceroides*, (Mœnch.) River-bottoms, Iowa.

CELASTRACEÆ.—*Staphylea trifolia*, (L.) May. Thickets, Iowa. *Celastrus scandens*, (L.) This common vine abundantly found in thickets, and along banks of streams, throughout the Northern States, popularly known by the name of "Staff-tree," or "Climbing Bitter-sweet," is frequently resorted to by the Indians of the Northwest, in times of scarcity, as an article of food. The vine itself, cut into pieces of a convenient size, is boiled till the thick bark acquires a pulpy consistence, and the water becomes impregnated with mucilage. The woody part being rejected, the rest is eaten. By the Chippewa Indians it is called *Bi-mea-quât*. *Euonymus atropurpureus*, (Jacq.) June. Blue Earth River, and banks of the Mississippi. Showy in the frequent abundance of its scarlet fruit in winter. The root has also attained note in some quarters as a medicinal agent.

RHAMNACEÆ.—*Rhamnus alnifolius*, (L'Hen.) May. Alder swamps of the St. Croix River. *Rhamnus longifolius*, (Pursh.) Banks of the Mississippi, near Davenport, Iowa. *Ceanothus Americanus*, (L.) July. "Red root." A shrubby plant, well known on the Iowa prairies as a troublesome obstacle, by its tough roots in first breaking the soil. *Ceanothus ovalis*, (Bigelow.) May. Interior counties of Iowa, and on dry sandy ridges of the St. Croix; in the latter locality seeming to take the place of the preceding species, and an indication of a more barren soil.

VITACEÆ.—*Vitis riparia*, (Michx.) "River-side Frost-grape:" the only northwestern species. *Ampelopsis quinquefolia*, (Michx.) June. River-banks.

POLYGALACEÆ.—*Polygala purpurea*, (Nutt.) July. Wet and rather barren places, Iowa and Minnesota. *Polygala incarnata*, (L.) Dry soil, interior of Iowa. *Polygala cruciata*, (L.) July 28th. Moist margins of swampy lakes, St. Croix. *Polygala verticillata*, (L.) Dry hills, Iowa. *Polygala senega*, (L.) "Seneca snake-root." *Polygala polygama*, (Walt.) July. Sandy soil, St. Croix. *Polygala paucifolia*, (Willd.) Long Portage Trail from Lake Superior to the Upper St. Croix.

LEGUMINOSÆ.—*Lathyrus maritimus*, (Bigelow.) "Beach-pea." Common to the sandy shore of Lake Superior, and the Atlantic sea-beach. *Lathyrus venosus*, (L.) June. Copses. St. Peter's. *Lathyrus ochroleucus*, (Hook.) May. St. Croix and St. Peter's. *Lathyrus palustris*, (L.) Moist river-banks, St. Peter's. *Phaseolus diversifolius*, (Pers.) August. "Wild bean." Gravelly banks of the Mississippi, Davenport, Iowa. *Apios tuberosa*, (Mœnch.) August. The root of this common plant, abundantly scattered on the banks of streams, and alluvial bottoms throughout the United States, is the

true "Pomme de Terre" of the French voyageurs, and the "Mdo," or wild potato of the Sioux Indians. By the latter name it is extensively used as an article of diet. It grows in great abundance, and of superior quality, on the banks of the St. Peter's. When properly cooked, it is by no means unpalatable. *Amphicarpea monoica*, (Nutt.) August. Rich woods, bearing underground pods, like the peanut of commerce. *Desmodium nudiflorum*, (D. C.) August. Woods, St. Croix. *Desmodium acuminatum*, (D. C.) August. St. Croix. *Desmodium Canadense*, (D. C.) July. Moist banks of streams. *Lespedeza capitata*, (Michx.) August. Dry prairies, Iowa and Minnesota. *Astragalus caryocarpus*, (Ker.) May. Gravelly ridges in the interior of Iowa, Fort Snelling, at the junction of the Mississippi and St. Peter's Rivers, and abundant on the latter stream, being a characteristic plant of the peculiar drift deposit of that region. The fruit, which is a pod, closely resembles a plum in external appearance, from which fact it has received the common name of "ground-plum." The thick fleshy exterior is highly charged with moisture, having the usual taste of the pea tribe, and is frequently used to allay the thirst of the traveller on the great western plains. *Astragalus Canadensis*, (L.) July. Banks of the Mississippi and St. Peter's Rivers. *Oxytropis Lamberti*, (Pursh.) June. Upper St. Peter's, on drift ridges. *Glycyrrhiza lepidota*, (Nutt.) June. "Wild liquorice." Banks of the Blue Earth, St. Peter's, and St. Croix Rivers. Possessing some of the sensible qualities of the commercial liquorice, without its sweetness. *Tephrosia Virginiana*, (Pers.) July. Sandy soil, Davenport, Iowa. *Amorpha fruticosa*, (L.) May. A handsome shrub, edging river-banks throughout the Northwest. *Amorpha nana*, (Nutt.) June 18th. High prairies on Blue Earth River. A characteristic plant of woodless, grassy hills on the Missouri, often diffused, as Mr. Nuttall remarks, "like heath in Europe, over many acres in succession, and is the only upland shrub apparently capable of withstanding the peculiarities of this climate." (Nutt., *Genera*, vol. ii. p. 91.) *Amorpha canescens*, (Nutt.) July. This is the noted "lead-plant" of Iowa and Wisconsin. Its value as a mineral indication may probably be summed up in this. It attaches itself with most luxuriance to rocky crevices and spots about which the peculiar dry earth, indicating a mineral vein, exists, and the miner is thus guided in making his excavations. Farther than this any definite relation with the lead-bearing rock is sufficiently disproved by the extensive geographical range of this plant, from British America to Texas. *Psoralea argophylla*, (Pursh.) July. High prairies in Iowa and Minnesota. A characteristic plant, with silvery foliage. *Psoralea esculenta*, (Pursh.) June 3d. Gravelly ridges of the St. Peter's. This is the valuable plant known as the "Indian turnip,"—"Pomme de Prairie," of the French voyageurs; "Tipsinah" of the Sioux Indians. It occurs over a wide range of country between the Mississippi and the Rocky Mountains, and is a characteristic plant of the "Coteau des Prairies." The root, frequently attaining the size of a hen's egg, is of a regular, cylindric, ovoid shape, consisting of a thick leathery envelope, easily separating when fresh from its smooth internal part. The latter is of friable texture, except towards the axis, where some ligneous fibres are intermixed. When dry, it acquires a sweetish taste, and is easily pulverized, affording a light, starchy flour, suitable for all the uses of the ordinary article. When growing its aspect is that of a Lupine. It selects a dry, gravelly, but not barren soil, and is well worthy the attention of cultivators, as an interesting production of the Northwest. *Petalostemon violaceum*, (Michx.) June. Dry hills throughout the Northwest. *Petalostemon candidum*, (Michx.) August. Dry prairies. *Petalostemon villosus*, (Nutt.) Sandy banks. "Traverse des Sioux," Falls of St. Anthony, Barrens of St. Croix. A very elegant species in flower and foliage. *Trifolium reflexum*, (L.) June. Buffalo clover. Low grounds. Iowa. *Trifolium repens*, (L.) St. Peter's and St. Croix. *Lupinus perennis*, (L.) St. Croix Barrens. *Baptisia leucantha*, (Torr. & Gr.) July. Rich soil, Davenport and St. Croix. *Baptisia leucophœa*, (Nutt.) May. Dry prairies. Iowa. *Cercis Canadensis*, (L.) April. "Red-bud." Banks of the Mississippi. Davenport and Rock Island. *Cassia chamaecrista*, (L.) July. Sensitive pea. Sandy soil. Iowa.

ROSACEÆ.—*Prunus Americana*, (Marsh.) Wild plum. Forming thickets. Mississippi and St. Croix. Generally producing an abundance of fruit. *Cerassus pumila*, (Michx.) Sand-cherry. Sandy banks of Lake St. Croix. Beach of Lake Superior. *Cerassus Pennsylvanica*, (Loisel.) Bird cherry. St. Croix. *Cerassus Virginiana*, (D. C.) Choke cherry. St. Croix. *Spiræa opulifolia*, (L.) June. Rocky river banks, Iowa. *Spiræa salicifolia*, (L.) July. Wet places. St. Peter's and St. Croix. *Spiræa tomentosa*, (L.) July. Margins of lakes. Minnesota. *Agrimonia Eupatoria*, (L.) August. Waste places. St. Croix. *Geum Virginianum*, (L.) June. Shady hills. St. Peter's. *Geum strictum*, (Ait.) Moist places. St. Peter's. *Geum triflorum*, (Pursh.) May. Head of Lake St. Croix, Fort Snelling, and St. Peter's. This fine species, particularly beautiful in its plumed fruit, is well worthy to usurp the place of

the *Geum urbanum*, of our gardens. In its geographical range it is pretty constantly associated with *Pulsatilla patens*, but is less common. *Waldsteinia fragarioides*, (Tratt.) Dividing ridge between the St. Croix and Bois Brûlé Rivers. *Potentilla Norvegica*, (L.) July. Waste places. St. Croix. *Potentilla paradoxa*, (Nutt.) July. Sandy margins of Cornelian Lake, near St. Croix River. *Potentilla Pennsylvanica*, (L.) July 4th. Granite knolls near "Little Rock," Upper St. Peter's. *Potentilla arguta*, (Pursh.) June. A very common plant on the dry rolling prairies of Iowa and Minnesota. *Potentilla anserina*, (L.) July. Mississippi, above Fort Snelling. *Potentilla tridentata*, (Ait.) Shore of Lake Superior. *Comarum palustre*, (L.) July. Cranberry bogs, St. Croix. *Fragaria Virginiana*, (Ehrh.) Common strawberry. Fields and prairies, Iowa and Minnesota. *Fragaria vesca*, (L.) Wood strawberry. St. Croix. *Rubus odoratus*, (L.) Flowering Raspberry. South shore of Lake Superior. *Rubus triflorus*, (Richards.) May. Shady places. St. Croix. *Rubus strigosus*, (Michx.) Red raspberry. Falls of St. Croix. Not abundant, except in the vicinity of settlements. *Rubus occidentalis*, (L.) Black raspberry. St. Croix. *Rubus villosus*, (Ait.) High blackberry. Forming thickets. Falls of St. Croix. *Rosa lucida*, (Ehrh.) May. Dry soil. Iowa. *Rosa blanda*, (Ait.) May. Prairie rose. Iowa and Minnesota. *Crataegus tomentosa*, (L.) June. A fine shrub, distinguished for the profusion of its flowers and the beauty of its foliage. Banks of the Mississippi. *Crataegus coccinea*, (L.) Variety mollis. May. Davenport, Iowa. *Crataegus Crus-galli*, (L.) June. Rock Island, Ill. *Pyrus coronaria*, (L.) April. Crab-apple. Abundant on the banks of the Mississippi, near Davenport, Iowa, extending north to the St. Peter's. *Pyrus arbutifolia*, (L.) Choke-berry. Bogs. St. Croix. *Pyrus Americana*, (D. C.) Mountain ash. Shores of Lake Superior. *Amelanchier Canadensis*, (Torr. and Gr.) April. This widely-spread and variable shrub seems to require a high northern latitude to perfect its fruit. In such situations it becomes an important article of diet, and forms a frequent ingredient in the Pemican, or pounded meat, so extensively used in those regions. The shrub is there known by the name of *Pembina*, which name has been applied to the Red River settlement of Lord Selkirk.

LYTHRACEÆ.—*Ammannia latifolia*, (L.) August. Banks of Mississippi, near Des Moines Rapids. *Lythrum alatum*, (Pursh.) July. Margins of ponds. Iowa and Minnesota. *Decodon verticillatum*, (Ell.) Fish Trap Rapids, Upper St. Croix.

ONAGRACEÆ.—*Epilobium angustifolium*, (L.) July. Waste places, St. Croix. *Epilobium coloratum*, (Muhl.) July. Moist places. St. Croix. *Epilobium palustre*, (L.) July. Bogs. St. Croix. *Oenothera biennis*, (L.) Thickets, throughout the Northwest. *Oenothera rhombipetala*, (Nutt.) July 21st. Sandy cliffs about Cornelian Lake. This species has only been found hitherto on the Arkansas and Missouri. *Oenothera serrulata*, (Nutt.) June. A characteristic plant of the gravelly ridges on the St. Peter's, and in the interior of Iowa. *Gaura biennis*, (L.) August. Dry fields. Davenport, Iowa. *Ludwigia palustris*, (Ell.) Wet places. St. Croix.

CIRCÆACEÆ.—*Circæa lutetiana*, (L.) Moist woods. St. Croix. *Circæa alpina*, (L.) Deep woods. Upper St. Croix.

HALORAGACEÆ.—*Myriophyllum verticillatum*, (L.) Floating in still ponds. Interior of Iowa. *Hispiris vulgaris*, (L.) July. Reedy swamps on the St. Peter's, near Traverse des Sioux.

CACTACEÆ.—*Opuntia vulgaris*, (Mill.) July. Crevices of the bare granite rocks, Upper St. Peter's, and at the Falls of the St. Croix. This species seems to be nearer to our common Prickly Pear than to the *O. Missouriensis*, which latter is referred to the Rocky Mountains, and the plains of the Missouri.

GROSSULACEÆ.—*Ribes cynosbati*, (L.) Prickly gooseberry. Rocky woods. *Ribes Missouriense*, (Nutt.) Borders of streams. Iowa. As far north as the St. Peter's River. This characteristic species is to be noted for the luxuriance of its growth, and frequent abundance of its wild fruit. It is farther worthy of note, for affecting a dryer soil than is common to this class of plants; thus it would seem peculiarly fitting it for cultivation in the region of which it is a native. *Ribes floridum*, (L.) May. Wild Black Currant. Abundant on the alluvial bottoms of the Upper Mississippi. *Ribes rubrum*, (L.) Common Red Currant. Head of the Chippewa River. Mr. A. Randall. This common fruit-bearing shrub of our gardens was frequently observed growing wild by various members of the Geological corps, during the season of 1847, when they had the opportunity of ascertaining its identity in fruit, with the red currant of our gardens.

CUCURBITACEÆ.—*Echinocystis lobata*, (Torr. and Gray.) Alluvial river banks. St. Croix and St. Peter's.

GRASULACEÆ.—*Penthorum sedoides*, (L.) July. Wet places. St. Croix.

SAXIFRAGACEÆ.—*Saxifraga Pennsylvanica*, (L.) May. Bogs. St. Croix. *Heuchera Richardsonii*, (R. Br.) June. A common plant, characteristic of dry rolling prairies. Iowa and Minnesota. *Mitella diphylla*, (L.) May. Shady hillsides. St. Croix. *Mitella nuda*, (L.) Deep woods. Upper St. Croix. *Chrysosplenium Americanum*, (Schwein.) Northern brooks. Upper St. Croix.

UMBELLIFERÆ.—*Hydrocotyle Americana*, (L.) August. Springy places. Falls of St. Croix. *Sanicula Canadensis*, (L.) June. Blue Earth River. *Sanicula Marilandica*, (L.) June. Blue Earth River. *Eryngium aquaticum*, (L.) Rattlesnake root. Moist prairies. Iowa and Illinois. *Polytenia Nuttallii*, (D. C.) June. Prairies near Davenport, Iowa. *Heracleum lanatum*, (Michx.) Moist banks of the St. Peter's River. *Archemora rigida*, (D. C.) August. Banks of streams. Iowa. *Archangelica atropurpurea*, (Hoffm.) Alder swamps on St. Croix River. *Thaspium barbinode*, (Nutt.) June. Woods. Blue Earth River. *Thaspium auerum*, (Nutt.) May. High prairies. St. Croix and St. Peter's. *Zizia aurea*, (Koch.) Moist places on prairies. St. Peter's. *Zizia integrerrima*, (D. C.) June. Dry banks of rivers. Iowa. *Cicuta maculata*, (L.) June. Poison hemlock. Covering acres in succession in rich moist prairies, in the interior of Iowa. *Cicuta bulbifera*, (L.) August. Margins of lakes. St. Croix. *Sium latifolium*, (L.) River margins. St. Croix. *Cryptotaenia Canadensis*, (D. C.) Rich woods throughout the Northwest. *Chærophylum procumbens*, (Law.) May. Rock Island, Illinois. *Osmorrhiza longistylis*, (D. C.) May. Sweet Cicely. Woods. St. Peter's and St. Croix. *Osmorrhiza brevistylis*, (D. C.) St. Croix.

ARALIACEÆ.—*Aralia racemosa*, (L.) Spikenard. Rich woods in the Northwest. *Aralia nudicaulis*, (L.) Wild Sarsaparilla. Shady hillsides, throughout the Northwest. *Aralia hispida*, (Michx.) August. Trap rocks. Falls of St. Croix. *Panax quinquefolium*, (L.) Ginseng. Rock Island, Ill.

CORNACEÆ.—*Cornus alternifolia*, (L.) Dogwood. St. Peter's and St. Croix. *Cornus circinata*, (L'Hen.) June. Banks of the St. Peter's. *Cornus sericea*, (L.) June. Moist banks of streams. Upper Mississippi, St. Peter's, &c. This is the only shrub extensively known and prized as the genuine "Kinnikinnie," or smoking ingredient, in such general use among all the Indian tribes of the Northwest. In those sections of country where this species is not found, other barks or leaves are resorted to as substitutes; but wherever this species is found, it takes preference over all others. The dried inner bark is the part used, being mixed for smoking with equal parts of tobacco, to which it is said to impart an agreeable pungency. *Cornus stolonifera*, (Michx.) May. Wet rocky banks of streams. St. Croix and Lake Superior. This is the most common substitute for the genuine Kinnikinnie by the Indians about Lake Superior. Its common name of Red Osier or Willow, has introduced considerable confusion into the popular synonymy. I am not informed of any species of *Salix* (or Willow proper), being used for Kinnikinnie. *Cornus paniculata*, (L'Hen.) July. Thickets on Blue Earth River. *Cornus asperifolia*, (Michx.) July. Blue Earth River. *Cornus Canadensis*, (L.) Pine woods. St. Croix.

CAPRIFOLIACEÆ.—*Linnæa borealis*, (Gronov.) Deep pine woods and cedar swamps. Upper St. Croix and Lake Superior. *Symphoricarpos racemosus*, (Michx.) June. Snow-berry. A very common shrub on the St. Peter's. *Lonicera parviflora*, (Lam.) May. Wild Honeysuckle. St. Croix. *Lonicera ciliata*, (Muhl.) Twin Honeysuckle. Upper St. Croix. *Diervilla trifida*, (Mœnch.) June. Hillsides. St. Croix. This plant is in use among the Indians as a diuretic. *Triosteum perfoliatum*, (L.) June. Copses and river banks. Iowa and Minnesota. *Sambucus Canadensis*, (L.) Common elder. Abundant on the Lower St. Peter's. *Sambucus pubens*, (Michx.) May. Stillwater, Minnesota. *Viburnum Lentago*, (L.) June. Banks of the St. Peter's. *Viburnum dentatum*, (L.) Arrow wood. St. Peter's. *Viburnum pubescens*, (Pursh.) May. St. Croix. *Viburnum acerifolium*, (L.) "Grand Portage Trail" from Lake Superior to the Upper St. Croix. *Viburnum Opulus*, (L.) May. St. Croix, north to Lake Superior. Cranberry bush. The fruit of this handsome and frequently prolific shrub, when freshly gathered, and fully ripe, furnishes a grateful repast to the traveller in these northern regions.

RUBIACEÆ.—*Galium asprellum*, (Michx.) Thickets. St. Croix. *Galium trifidum*, (L.) Small Bed Straw. Common. *Galium triflorum*, (Michx.) June. Rich woods. St. Peter's. *Galium boreale*, (L.) June. High prairies. St. Peter's. *Cephalanthus occidentalis*, (L.) Springy places. Common. *Hedyotis longifolia*, (Hook.) July. Exposed granite rocks. Upper St. Peter's. Falls of St. Croix. *Mitchella repens*, (L.) Pine woods. St. Croix.

VALERIANACEÆ.—*Valeriana edulis*, (Nutt.) Upper Mississippi. May. This widely-spread western plant, which was formerly described in Torrey and Gray's Flora as a distinct species, (*V. ciliata*), is now

ascertained to be identical with the native of Oregon, so extensively used in that region as an article of diet, by the Indian tribes. Its thick fleshy root possesses, in a fresh state, the peculiar aromatic qualities which render most of the plants of this genus useful in medicine. This property being dissipated in the process of cooking, it is said to form a nutritious and palatable article of food. I am not informed of any similar application of this plant in the region of country under examination, but this may be accounted for from its comparative scarcity.

COMPOSITE.—*Vernonia fasciculata*, (Michx.) August. Iron weed. St. Croix. *Liatris cylindracea*, (Michx.) August. Dry hillsides. Iowa and Minnesota. *Liatris scariosa*, (Willd.) August. Dry rolling prairies. Iowa. *Liatris pycnostachya*, (Torr. and Gr.) Moist places in prairies. Iowa, and Minnesota. *Kuhnia eupatorioides*, (L.) September. Dry hills. Davenport, Iowa. *Eupatorium purpureum*, (L.) Low grounds. St. Croix. *Eupatorium serotinum*, (Michx.) September. Dry banks of rivers. Iowa. *Eupatorium perfoliatum*, (L.) Boneset. St. Croix, &c. *Eupatorium ageratoides*, (L.) August. Falls of St. Croix. *Aster macrophyllus*, (L.) Copses. Common throughout the Northwest. *Aster sericeus*, (Vent.) August. Dry prairies. Iowa. Barrens of St. Croix. A characteristic and handsome species, with silvery foliage and rich purple flowers. *Aster laevis*, (L.) August. Dry woodlands. Common. *Aster azureus*, (Lindl.) August. Dry hillsides. Iowa and Minnesota. *Aster cordifolius*, (L.) August. Thickets. St. Croix. *Aster sagittifolius*, (Willd.) August. Falls of St. Croix. *Aster multiflorus*, (Ait.) September. Dry fields. Iowa. *Aster miser*, (Ait.) August. Thickets. St. Croix. *Aster puniceus*, (L.) September. Moist ground. St. Croix. *Aster laxifolius*, (Nees.) August. Bogs. St. Croix. *Aster oblongifolius*, (Nutt.) June. Rocky banks of the Mississippi, near Davenport, Iowa. *Aster ptarmicoides*, (Torr. and Gr.) August. Dry river bluffs, Mississippi and St. Croix. *Erigeron Canadense*, (L.) A common weed springing up very rank on broken prairies, where cultivation has been abandoned. *Erigeron bellidifolium*, (Muhl.) May. Grassy places. Iowa and Minnesota. *Erigeron Philadelphicus*, (L.) June. Davenport, Iowa. *Erigeron glabellum*, (Nutt.) Upper St. Croix. *Erigeron annuum*, (Pers.) June. Davenport, Iowa. *Erigeron strigosus*, (Muhl.) St. Croix. *Diplopappus umbellatus*, (Torr. and Gr.) Thickets of St. Croix. *Solidago bicolor*, var. *concolor*, (Linn.) August. Trap rocks. Falls of St. Croix. *Solidago latifolia*, (L.) Shaded river-banks in the Northwest. *Solidago stricta*, (Ait.) August. Tamerack swamps. St. Croix. *Solidago speciosa*, (Nutt.) August. Dry, rolling prairies. Iowa and Minnesota. *Solidago rigida*, (L.) September. A conspicuous and common prairie plant. *Solidago ulmifolia*, (Muhl.) August. Falls of St. Croix. *Solidago nemoralis*, (Ait.) August. Dry hillsides. Iowa and Minnesota. *Solidago serotina*, (Ait.) August. Falls of St. Croix. *Solidago lanceolata*, (Ait.) August. St. Croix. *Chrysopsis villosa*, (Nutt.) July. Dry soil. Fort Snelling. *Silphium laciniatum*, (L.) July. Rosin weed, "Compass plant." Prairies of Iowa and Illinois. *Silphium perfoliatum*, (L.) Cup plant. Borders of streams. Iowa and Minnesota. Its large, coarse leaves, uniting at their insertion around the square stem, form a cup-shaped cavity, which retains the water after a shower. *Ambrosia artemisifolia*, (L.) Waste places. *Ambrosia trifida*, (L.) Growing with luxuriant rankness on the rich cultivated bottoms of the Mississippi. *Xanthium strumarium*, (L.) River-banks, St. Peter's. *Heliopsis laevis*, (Pers.) July. Banks of streams throughout the Northwest. *Echinacea angustifolia*, (D. C.) June. An abundant and striking prairie-flower in Iowa. Its thick, pungent root, under the name of "Black Sampson," has wonderful properties ascribed to it in popular medicine. *Echinacea purpurea*, (Moench.) July. Iowa prairies. *Rudbeckia hirta*, (L.) June. Dry soil. Iowa and Minnesota. *Rudbeckia triloba*, (L.) September. Dry hillsides. Iowa. *Rudbeckia subtomentosa*, (Pursh.) August. Wet places. Iowa. *Rudbeckia laciniata*, (L.) August. Copses. Iowa and Minnesota. *Lepachys pinnata*, (Torr. and Gr.) July. Dry prairies. Iowa and Minnesota. *Helianthus rigidus*, (Desf.) September. Abundant on dry prairies. Iowa. *Helianthus occidentalis*, (Riddell.) July. Dry hills. Davenport, Iowa, and St. Croix. *Helianthus giganteus*, (L.) August. Copses. St. Croix. *Helianthus strumosus*, (L.) Copses. Common. *Helianthus tuberosus*, (L.) Common artichoke. River-banks. St. Peter's and St. Croix. Certainly native, and a well-known article of diet among the Indians, called by the Chippewas, Ush-ke-buag. Like the red-currant, and hop, it furnishes another singular instance, in this region, of a native plant, which is soon destined, with the progress of civilization, to meet its cultivated compeer, coming from a far land. *Actinomeris squarrosa*, (Nutt.) September. Thickets. Iowa. *Coreopsis tripteris*, (L.) Borders of streams. Iowa. *Coreopsis palmata*, (Nutt.) June. Dry copses and prairies. Iowa and Minnesota. *Bidens frondosa*, (L.) Wet places. Common. *Bidens chrysanthemoides*, (Michx.) August. St. Croix. *Bidens Beckii*, (Torr.) Floating in shallow

lakes near the head waters of St. Croix River. *Dysodia chrysanthemoides*, (Lagasca.) August. Waste places about towns. Iowa. *Helenium autumnale*, (L.) Alluvial soil. Common. Maruta Cótula, (D. C.) May-weed. Abundantly naturalized about western towns. *Achillea Millefolium*, (L.) June. Sandstone rocks. Blue Earth River. *Artemisia caudata*, (Michx.) Dry prairies and river-banks. Iowa and Minnesota. *Artemisia Ludoviciana*, (Nutt.) Dry rolling prairies. Iowa and Minnesota. *Artemisia biennis*, (Willd.) Roadsides. Iowa. *Artemisia dracunculoides*? (Pursh.) Iowa and Minnesota. *Gnaphalium decurrens*, (Ives.) Old deserted fields. Lake Superior. *Antennaria margaritacea*, (R. Br.) Lake Superior. *Antennaria plantaginifolia*, (Hook.) April. Dry knolls throughout the Northwest. *Erechtithes hieracifolia*, (Raf.) August. Trap-rocks. Falls of St. Croix. *Cacalia reniformis*, (Muhl.) Copses. Davenport, Iowa. *Cacalia atriplicifolia*, (L.) Davenport, Iowa. *Cacalia tuberosa*, (Nutt.) Indian plantain. Moist prairies. Iowa and Minnesota. The tubers, from which Mr. Nuttall derived the specific name of this plant, have not been noticed by other observers. *Senecio integerrimus*, (Nutt.) June. Alluvial bottoms of Blue Earth River. *Senecio aureus*, var. *Balsamite*, (L.) Rocky banks. Davenport, Iowa. *Cirsium altissimum*, (Spring.) Fall prairie thistle. Iowa and Minnesota. *Cynthia Virginiana*, (Don.) May. Dry hills. Davenport, Iowa. *Hieracium Canadense*, (Michx.) August. Trap-rocks at the Falls of St. Croix. *Hieracium scabrum*, (Michx.) August. Dry hillsides, St. Croix. *Hieracium longipilum*, (Torr.) This singular species was collected by Mr. Randall on the St. Croix, who was struck with its singular appearance, its long hairs beset with dew-drops, giving it the appearance of a Cactus. *Nabalus albus*, (Hook.) August. Edges of woods. St. Croix. *Nabalus racemosus*, (Hook.) September. Moist prairies. Iowa. *Nabalus asper*, (Torr. and Gr.) Dry prairies. Iowa. *Lygodesmia juncea*, (Don.) July. Drift-ridges on the Upper St. Peter's. A characteristic plant on the great western plains. *Troximon cuspidatum*, (Pursh.) April. Prairies of Iowa and Minnesota. *Taraxacum densleonis*, (Desf.) Dandelion. Lake Superior. *Lactuca elongata*, (Muhl.) Wild lettuce. St. Croix. *Mulgedium leucophæum*, (D. C.) Low grounds. Common.

LOBELIACEÆ.—*Lobelia cardinalis*, (L.) August. Low grounds. Iowa, &c. *Lobelia syphilitica*, (L.) August. St. Croix. *Lobelia inflata*, (L.) Indian tobacco. Lake St. Croix. *Lobelia spicata*, (Lam.) July. Prairies. St. Peter's.

CAMPANULACEÆ.—*Campanula rotundifolia*, (L.) July. Sand-rock. St. Peter's. *Campanula aparinoides*, (Pursh.) July. Bogs. St. Croix. *Campanula Americana*, (L.) July. Woods. Iowa. *Specularia perfoliata*, (A. D. C.) June. Dry hills. Iowa.

ERICACEÆ.—*Gaylussacia resinosa*, (Torr. and Gr.) Black Huckleberry. Found only in a single isolated locality, near Davenport, Iowa. *Vaccinium macrocarpon*, (Ait.) American cranberry. This staple native production of the Northwest is nowhere more abundant, or of finer quality, than in the region bordering the St. Croix River. In this section of lakes and swamps innumerable, this humble plant, with the commonly associated tamarack growth, offers some compensation for the obstacles nature seems to have thrown in the way of ordinary cultivation. The marshes in which it abounds are of the usual character in other parts, viz., a bed of sphagnum, sinking under the foot, so as to be knee-deep in water. The usual vegetable accompaniments are *Andromeda polifolia* and *calyculata*, *Sarracenia purpurea*, *Menyanthes trifoliata*, &c. The season of gathering the fruit lasts from September till snow-fall, and is quite an important business among the Indians. The susceptibility of this plant for cultivation being now abundantly proved, we may soon expect to see this wholesome and excellent fruit take an important rank in the commerce of this region. *Vaccinium cæspitosum*, (Michx.) Margins of a lake near Stillwater, St. Croix. *Vaccinium Pennsylvanicum*, (Lam.) Barrens on the Upper St. Croix. This is the common Huckleberry, associated with the characteristic growth of the *Pinus Banksiana*, covering its sandy ridges with a verdant undergrowth, and an unsurpassed luxuriance of fruit. By the Indians, these are collected and smoke-dried in great quantities, and in this form constitute an agreeable article of food. It seems strange that the species of this useful genus have not been made more the subject of horticultural examination. *Vaccinium Canadense*, (Kalm.) Falls of St. Croix. *Chiogenes hispida*, (Torr. and Gr.) Mossy woods. Upper St. Croix. *Aretostaphylus Uva-ursi*, (Spreng.) Pine Barrens. St. Croix. Sandy shore of Lake Superior. The leaves of this well-known medicinal plant are frequently used as a substitute for Kinnikinnie. *Gaultheria procumbens*, (L.) Common wintergreen. Upper St. Croix. Pine Barrens. This abundant plant is frequently used as a substitute for common tea by the French voyageurs. *Epigæa repens*, (L.) Trailing arbutus. Upper St. Croix. *Andromeda polifolia*, (L.) May. Bogs and cranberry marshes. St. Croix. *Andromeda calyculata*, (L.) Bogs. St. Croix. Le-

dum latifolium, (Ait.) Marsh Tea. Margins of tamarack swamps. Upper St. Croix. *Pyrola rotundifolia*, (L.) Pine woods. St. Croix. *Pyrola elliptica*, (Nutt.) July. Traverse des Sioux, on the St. Peter's. *Pyrola secunda*, (L.) Pine woods. St. Croix. *Chimophila umbellata*, (Nutt.) Pipsissewa. Pine woods. St. Croix. *Hypopithys lanuginosa*, (Nutt.) Woods. Lake Superior. *Monotropa uniflora*, (L.) Woods. Lake Superior.

AQUIFOLIACEÆ.—*Prinos verticillatus*, (L.) St. Croix. The bark of this shrub is a common Indian emetic. Nemopanthus Canadensis, (D. C.) Boggy woods. St. Croix.

PLANTAGINACEÆ.—*Plantago major*, (L.) Common plantain. *Plantago cordata*, (Lam.) April. Edges of brooks. Iowa. *Plantago graphaloides*, (Nutt.) Bare granitic knolls. Upper St. Peter's.

PRIMULACEÆ.—*Dodecatheon Meadia*, (L.) Pride of the Prairie. Iowa. *Trientalis Americana*, (Pursh.) Woods. Upper St. Croix. *Androsace occidentalis*, (Pursh.) April. Banks of the Mississippi, near Davenport, Iowa. *Lysimachia stricta*, (Ait.) June. Borders of St. Croix. *Lysimachia quadrifolia*, (L.) Dry, sandy ridges. St. Croix. *Lysimachia ciliata*, (L.) Low grounds. St. Croix. *Lysimachia lanceolata*, (Walt.) Moist river-banks. St. Croix. *Naumburgia thyrsoiflora*, (Reichenb.) Swamps. St. Peter's.

LENTIBULACEÆ.—*Utricularia vulgaris*, (L.) Ponds. Iowa. *Utricularia intermedia*, (Hayne.) Traverse des Sioux. St. Peter's.

OROBANCHACEÆ.—*Philipsea Ludoviciana*, (Walp.) July. Traverse des Sioux. Found in a singular isolated locality, rooting on an Indian grave. *Anoplanganthus fasciculatus*, (Walp.) Bare granite rocks. Upper St. Peter's.

SCROPHULARIACEÆ.—*Verbascum Thapsus*, (L.) Mullein. Roadsides. Iowa. *Scrophularia nodosa*, (L.) June. Copses. Iowa and Minnesota. *Chelone glabra*, (L.) Swamps. Iowa and Minnesota. *Pentstemon pubescens*, (Solander.) June. Banks of the Mississippi. Davenport, Iowa. *Pentstemon lævigatum*, (Pursh.) Roadsides. Iowa. *Pentstemon grandiflorum*, (Nutt.) Dry hills about Fort Snelling. This large and handsome species, resembling in aspect the well-known Fox-glove, is equally worthy a place in the flower-garden. *Mimulus ringens*, (L.) Wet places. Common. *Mimulus Jamesii*, (Torr. and Gr.) Cold springs at Fort Snelling and Stillwater. This peculiar northwestern species is only found floating on the pure issue of the coldest springs, which it mats with its succulent foliage, continuing to put forth its yellow blossoms through the entire flowering season. *Synthyris Houghtoniana*, (Benth.) May. Abundant on the high table-land overlooking the town of Stillwater, St. Croix. This northwestern plant, so unique in its botanical features, is no less interesting in its association with the name of the lamented Houghton. *Veronica Virginica*, (L.) Culver's root. A common and conspicuous plant on rich prairies throughout the Northwest. It still retains some reputation as a popular medicinal agent. *Veronica Americana*, (Schwein.) Brooks. Iowa. *Veronica scutellata*, (L.) Bogs. Upper Mississippi. *Veronica peregrina*, (L.) Waste places. Davenport. *Gerardia purpurea*, (L.) August. Lake margins. St. Croix. *Gerardia tenuifolia*, (Vahl.) August. Falls of St. Croix. *Gerardia Pedicularia*, (L.) September. Dry prairies. Iowa. *Castilleja coccinea*, (Spreng.) June. Painted Cup. An abundant and showy prairie flower. Iowa. *Castilleja sessiflora*, (Pursh.) June. Drift ridges. St. Peter's. *Pedicularis Canadensis*, (L.) Prairies. Iowa and Minnesota. *Melampyrum pratense*, (L.) Pine Barrens. St. Croix.

VERBENACEÆ.—*Verbena hastata*, (L.) Waste places. Davenport, Iowa. *Verbena urticifolia*, (L.) Roadsides. Iowa. *Verbena spuria*, (L.) Dry fields. Iowa. *Verbena angustifolia*, (Michx.) June. Dry fields. Iowa. *Verbena stricta*, (Vent.) River-banks and prairies of Iowa. *Verbena bracteosa*, (Michx.) Roadsides. Iowa and Minnesota. *Phryma leptostachya*, (L.) Rich woods. Iowa and Minnesota. *Lippia nodiflora*, (Michx.) River-banks, Mississippi and Des Moines.

LABIATÆ.—*Isanthus cæruleus*, (Michx.) August. Gravelly banks. Iowa. *Mentha Canadensis*, (L.) Wild mint. Borders of streams. *Lycopus Virginicus*, (L.) Bugle-weed. Lake margins. St. Croix. *Lycopus sinuatus*, (Ell.) Water horehound. Springy places. Iowa and Minnesota. *Hedeonia hirta*, (Nutt.) Dry, exposed places. Iowa and Minnesota. *Monarda fistulosa*, (L.) Wild bergamot. Dry hills. St. Croix. A fragrant and handsome species. *Nepeta Cataria*, (L.) Catnip. Falls of St. Croix. *Lophanthus anisatus*, (Benth.) Thickets. St. Peter's, Fort Snelling, Falls of St. Croix. This characteristic northwestern species combines an agreeable anise flavour, with a singular beauty of flowers and foliage. In both respects it deserves a place in every garden. Its essential oil would make a useful addition to our number of such articles, and it would be interesting to compare it with the

common Anise, belonging to a very distinct family, which this plant so closely resembles in taste. *Lophanthus nepetoides*, (Benth.) Falls of St. Croix. *Lophanthus scrophularifolius*, (Benth.) All three of the above species are found side by side at the Falls of St. Croix, and exhibit a fine example of gradation of specific characters. *Pycnanthemum pilosum*, (Nutt.) Dry hills. Iowa. *Pycnanthemum lanceolatum*, (Pursh.) Thickets in Iowa and Minnesota. *Prunella vulgaris*, (L.) Common Heal-all. *Scutellaria parvula*, (Michx.) May. Gravelly borders of the Upper Mississippi. *Scutellaria galericulata*, (L.) Wet places. St. Croix. *Scutellaria laterifolia*, (L.) Wet places. Iowa and Minnesota. *Scutellaria versicolor*, (Nutt.) Copses. Davenport, Iowa. *Physostegia Virginiana*, (Benth.) July. River margins. Upper Mississippi, St. Peter's, and St. Croix. *Leonurus Cardiaca*, (L.) Mother-wort. About houses. *Galeopsis Tetrabit*, (L.) Lake Superior. *Stachys hispida*, (Pursh.) Margins of rushy ponds. Iowa. *Teucrium Canadense*, (L.) Low grounds. St. Croix.

BORAGINACEÆ.—*Onosmodium molle*, (Michx.) About gopher-holes, on prairies. Iowa and Minnesota. *Lithospermum latifolium*, (Michx.) May. Rock Island, Illinois. *Batschia Gmelini*, (Michx.) June. Dry, sandy ridges. Iowa and Minnesota. *Batschia canescens*, (Michx.) Hoary Puccoon. More abundant than the preceding species, and growing on richer soil. Its root furnishes a common dye, used by the Indians. *Batschia longiflora*, (Nutt.) May. Banks of the Mississippi River, near Davenport, Iowa. *Mertensia Virginica*, (D. C.) April. Lung-wort. Davenport. *Echinopspermum Lappula*, (Lehm.) Stick-seed. Waste places. *Cynoglossum officinale*, (L.) Hound's-tongue. Roadsides. *Cynoglossum Virginicum*, (L.) Portage between the St. Croix and Bois Brulé Rivers. *Cynoglossum Morisonii*, (D. C.) Waste places about villages. Iowa.

HYDROPHYLLACEÆ.—*Hydrophyllum Virginicum*, (L.) June. Rich woods. Iowa and Minnesota. *Hydrophyllum appendiculatum*, (Michx.) June. Copses. Iowa. *Ellisia ambigua*, (Nutt.) May. An evanescent weed, common about cultivated fields and gopher-holes. Iowa and Minnesota.

POLEMONIACEÆ.—*Polemonium reptans*, (L.) May. Shady places, near Davenport, Iowa. *Phlox maculata*, (L.) June. Wet places on prairies. Iowa. *Phlox pilosa*, (L.) June. Common on prairies throughout the Northwest. *Phlox divaricata*, (L.) April. Shady hillsides. Iowa.

CONVOLVULACEÆ.—*Calystegia sepium*, (R. Br.) Bindweed. Copses. Iowa and Minnesota. *Cuscuta Gronovii*, (Willd.) Common dodder. Low grounds. *Cuscuta glomerata*, (Choisy.) Mississippi bottoms, near Rock Island, Illinois.

SOLANACEÆ.—*Datura Stramonium*, (L.) Waste places, interior of Iowa. A close attendant on the steps of the pioneer physician. *Physalis viscosa*, (L.) Dry fields, Iowa and St. Peter's. A narrow-leaved variety, which is often confounded with the *P. lanceolata* of Michaux, is frequently met with. *Solanum nigrum*, (L.) Waste places. St. Croix.

GENTIANACEÆ.—*Gentiana quinqueflora*, (Lam.) Dry prairies, Iowa. *Gentiana crinita*, (Frøel.) Fringed gentian. Moist grounds, St. Croix. *Gentiana Saponaria*, (L.) Moist river banks. Upper St. Croix. A pure white variety is often met with. *Menyanthes trifoliata*, (L.) Bogs. St. Croix and St. Peter's. *Halenia deflexa*, (Griseb.) Bois Brulé River bank and south shore of Lake Superior.

APOCYNACEÆ.—*Apocynum androsæmifolium*, (L.) June. St. Croix. *Apocynum cannabinum*, (L.) River-banks throughout the Northwest.

ASCLEPIADACEÆ.—*Asclepias Cornuti*, (De Caisne.) Copses of the Northwest. *Asclepias phyto-lacoides*, (Pursh.) Copses. St. Croix. *Asclepias purpurascens*, (L.) Hills. Davenport, Iowa. *Asclepias obtusifolia*, (Michx.) Dry, sandy prairies, Iowa. *Asclepias Meadii*, (Torr.) June. Of a singular isolated habit, but not rare on dry, rolling prairies. Iowa. *Asclepias incarnata*, (L.) Swamps. Iowa and Minnesota. *Asclepias tuberosa*, (L.) Butterfly-weed. June. Dry prairies. Iowa and Minnesota. *Asclepias verticillata*, (L.) Dry hills. Davenport, Iowa. *Acerates longifolia*, (Ell.) Moist places, Iowa. *Acerates viridiflora*, (Ell.) June. Dry hills and prairies. Iowa and Minnesota.

OLEACEÆ.—Several species of Ash (*Fraxinus*), were observed, but I have not the means at hand for identifying them.

ARISTOLOCHIACEÆ.—*Asarum Canadense*, (L.) Wild ginger. Rich woods. Iowa and Minnesota.

CHENOPODIACEÆ.—*Chenopodium album*, (L.) Cultivated fields. Iowa. *Chenopodium hybridum*, (L.) St. Croix. *Blitum capitatum*, (L.) La Pointe. Lake Superior. *Acnida cannabina*, (L.) St. Croix. River margins.

AMARANTHACEÆ.—*Amaranthus hybridus*, (L.) Fields and gopher-holes. Iowa and Minnesota. *Amaranthus græcizans*, (L.) A weed springing up wherever there is a garden.

NYCTAGINACEÆ.—*Oxybaphus nyctaginea*, (Torr.) Rocky river-banks. Upper Mississippi and St. Peter's. *Oxybaphus angustifolius*, (Torr.) Sandy bluffs. St. Croix. *Oxybaphus hirsutus* (?), (Hook.) Prairies. St. Peter's.

POLYGONACEÆ. *Polygonum Pennsylvanicum*, (L.) Moist places. St. Croix. *Polygonum Persicaria*. (L.) Moist places. St. Croix. *Polygonum Hydropiper*, (L.) Water pepper. St. Croix. *Polygonum amphibium*, (L.) July. Edges of shallow lakes. St. Croix. *Polygonum aviculare*, (L.) Door-weed. Common. *Polygonum articulatum*, (L.) Joint-weed. Sandy barrens. St. Croix. *Polygonum Virginianum*, (L.) August. St. Croix. *Polygonum arifolium*, (L.) Ditches. Common. *Polygonum sagittifolium*, (L.) With the preceding. *Polygonum Convolvulus*, (L.) Waste grounds. *Polygonum ciliode*, (Michx.) Shores of Lake Superior. There is a singular variety of this species which runs over the ground, its short axillary branches rooting at the extremity. Common to the steep bluffs of Lake Superior, and the Alpine regions of Northern New York. *Polygonum dumetorum*, (L.) Moist thickets. St. Croix. *Rumex Hydrolapathum*, (Hudson.) Wet, springy places. St. Croix. *Rumex crispus*, (L.) Davenport, Iowa. *Rumex Acetosella*, (L.) La Pointe. Lake Superior.

LAURACEÆ.—*Benzoin odoriferum*, (Nees.) Southern Iowa.

THYMELACEÆ.—*Dircia palustris*, (L.) Moose-wood. St. Croix woods.

ELÆAGINACEÆ.—*Shepherdia Canadensis*, (Nutt.) Shore of Lake Superior.

SANTALACEÆ.—*Comandra umbellata*, (Nutt.) Dry banks, Iowa and Minnesota.

EUPHORBIACEÆ.—*Euphorbia platyphylla*, (L.) Dry fields. Davenport, Iowa. *Euphorbia corollata*, (L.) Flowering spurge. Dry prairies of Iowa to St. Peter's. A striking feature of the prairie landscape, with its spreading umbel of minute flowers, continually put forth from June to September. It is an emetic in common use among the Indians of the Northwest, attended frequently with fatal effects, from the violence of its action. *Euphorbia maculata*, (L.) Falls of St. Croix. *Euphorbia hypericifolia*, (L.) Waste dry places. St. Croix. *Acalypha Virginica*, (L.) Gravelly river-banks. *Pilinophytum capitatum*, (Kl.) August. Streets of Davenport, Iowa. Leaves aromatic.

JUGLANDACEÆ.—*Juglans nigra*, (L.) Interior of Iowa. *Juglans cinerea*, (L.) Falls of St. Croix. *Carya alba*, (Nutt.) Iowa.

CUPULIFERÆ.—*Ostrya Virginica*, (Willd.) Iron-wood. St. Croix. *Carpinus Americana*, (Michx.) Falls of St. Croix. *Corylus Americana*, (Wait.) Hazelnut. Forming thickets on rich prairies, Iowa. An index of a fruitful soil. *Corylus rostrata*, (Ait.) St. Peter's. *Quercus*. Several species.

MYRICACEÆ.—*Myrica Gale*, (L.) Bay berry. Moist margins of the Upper St. Croix. *Comptonia asplenifolia*, (Ait.) Pine barrens and aspen thickets. Upper St. Croix.

BETULACEÆ.—*Betula papyracea*, (Ait.) Canoe birch. St. Croix and Lake Superior. *Betula pumila*, (L.) Edges of bogs. St. Croix. *Alnus incana*, (Willd.) Springs and swamps. St. Croix.

SALICACEÆ.—*Salix candida*, (Willd.) Bogs. St. Croix. *Salix longifolia*, (Muhl.) Sandbar Willow. *Salix pedicellaris*, (Pursh.) Swamps. St. Croix. *Populus tremuloides*, (Michx.) Aspen. Forming close thickets. St. Peter's and St. Croix. *Populus grandidentata*, (Michx.) Iowa.

URTICACEÆ.—*Humulus Lupulus*, (L.) Common hop. Native on all the tributaries of the Upper Mississippi. Mr. Nuttall considers it a distinct species. *Urtica gracilis*, (Ait.) Falls of St. Croix. *Urtica Canadensis*, (L.) Wooded banks of the St. Peter's. It is of this plant the Indians usually make their fishing-lines; the rotted remains of the previous year's growth, furnishing an abundant extemporaneous supply. *Pilea pumila*, (Gray.) Springy places. St. Croix.

CONIFERÆ.—*Pinus resinosa*, (Soland.) Red pine. St. Croix. *Pinus Strobus*, (L.) White pine. Tributaries of the Upper Mississippi, on the eastern side. *Pinus Banksiana*, (L.) Barrens. Upper St. Croix. *Abies Canadensis*, (Michx.) Hemlock tree. Lake Superior. *Abies nigra*, (Michx.) Black spruce. Lake Superior. *Abies alba*, (Michx.) Upper St. Croix. *Larix Americana*, (Michx.) Tamarack. Upper St. Croix. *Thuja occidentalis*, (L.) White cedar. Lake Superior. *Juniperus Virginiana*, (L.) Red Cedar. Upper Mississippi. *Taxus Canadensis*, (Willd.) American yew. Upper St. Croix and Lake Superior.

ENDOGENS.

ARACEÆ.—*Arum triphyllum*, (L.) May. Woods. Iowa and Minnesota. *Calla palustris*, (L.) July. Bogs. St. Croix. *Symplocarpus fetidus*, (Salisb.) Skunk cabbage. Swamps. Iowa. Not

common. *Acorus Calamus*, (L.) Sweet flag. The leaves of this common swamp plant are in frequent use among the Indians in the construction of mats.

LEMNACEÆ.—*Lemna trisulca*, (L.) Pools. St. Peter's.

TYPHACEÆ.—*Typha latifolia*, (L.) Cat-tail. Ponds, and lakes. The down of the full-blown seed is used by Indian mothers as padding for the clothes of young infants, to protect them from the cold. *Sparganium Americanum*, (Nutt.) Muddy places. St. Croix. *Sparganium natans*, (L.) Brooks. St. Croix.

NAIADACEÆ.—*Potamogeton natans*, (L.) Lake-like expansions of the Upper St. Peter's and St. Croix.

ALISMACEÆ.—*Alisma plantago*, (L.) Swamps. Upper St. Peter's. *Echinodorus subulatus*, (Engelm.) Muddy margins of ponds. St. Croix. *Sagittaria variabilis*, (Engelm.) Shallow ponds and muddy margins of lakes and rivers throughout the Northwest. This plant, so variable in foliage, and so abundant in distribution, furnishes an important article of native food in the tubers which beset its fibrous roots. These tubers (from the fact of their affording nourishment to the larger aquatic fowls, which congregate in such abundance about the northwestern lakes) are called by the Chippewas, Wab-es-i-pin-ig, or swan potatoes, a name which has been naturally appropriated to several streams of this region, Wabesipinicon; meaning, the abode of the swan potato. These tubers frequently attain the size of a small hen's-egg, and are then eaten by the Indians, with whom they are a great favourite. In their raw state they contain a bitter, milky juice, but in boiling become sweet and palatable. *Triglochin elatum*, (Nutt.) Upper St. Peter's. *Scheuchzeria palustris*, (L.) Bogs. St. Croix.

ORCHIDACEÆ.—*Microstylis monophyllos*, (Lindl.) Springy swamps. St. Croix. *Microstylis ophioglossoides*, (Nutt.) Damp woods. St. Croix. *Orchis spectabilis*, (L.) May. Woods. Rock Island, Illinois. *Platanthera Hookeri*, (Lindl.) Woods. St. Croix. *Platanthera dilatata*, (Lindl.) Springy swamps. St. Croix. *Platanthera leucophaea*, (Nutt.) Moist places on prairies. Iowa. *Platanthera psycodes*, (Gray.) Swamps. St. Croix. *Pogonia ophioglossoides*, (Nutt.) Cranberry marshes. St. Croix. *Calophogon pulchellus*, (R. Br.) June. Bogs, and moist sandy places. Iowa and Minnesota. *Spiranthes gracilis*, (Bigelow.) Pine barrens. St. Croix. *Spiranthes cernua*, (Richard.) Wet, grassy places. St. Peter's. *Goodyera pubescens*, (R. Br.) Hemlock woods, on Lake Superior. *Cypripedium pubescens*, (Willd.) Yellow moccasin flower. Hillsides and prairies. Iowa and Minnesota. *Cypripedium candidum*, (Muhl.) Moist banks. Iowa. *Cypripedium spectabile*, (Swartz.) June. Shady hills, near Davenport, Iowa. Blue Earth River. *Cypripedium acaule*, (Ait.) Woods. St. Croix.

AMARILIDACEÆ.—*Hypoxis erecta*, (L.) Dry soil. Iowa and Minnesota.

IRIDACEÆ.—*Iris versicolor*, (L.) Swamps. Iowa and Minnesota. *Sisyrinchium Bermudianum*, (L.) Blue-eyed grass. May. Prairies of Iowa.

DIOSCOREACEÆ.—*Dioscorea villosa*, (L.) Wild yam root. Thickets. Iowa and Minnesota. A twining diœcious vine, the tortuous echinate root said to prove an efficacious remedy in bilious colic. (Ridell.)

LILIACEÆ.—*Smilax rotundifolia*, (L.) June. Thickets on the banks of the St. Peter's. *Smilax hispida*, (Muhl.) St. Peter's river bottoms. *Smilax herbacea*, (L.) June. St. Peter's and St. Croix. *Trillium cernuum*, (L.) May. Lake St. Croix. *Trillium sessile*, (L.) May. Rich woods and copses. Davenport, Iowa. Not extending far to the north. A singular anomalous specimen has been noticed, illustrating the tendency to correspondence of parts, even when reverting from the original type. Thus, in place of the ordinary number, three, running through the several parts of the flower, there are in the specimen alluded to, four leaves, four sepals, four petals, eight stamens, and four pistils. *Polygonatum pubescens*, (Pursh.) River-banks. Mississippi and St. Peter's. *Smilacina racemosa*, (Desf.) June. Copses. St. Peter's. *Smilacina stellata*, (Desf.) Moist places in prairies. Iowa. *Smilacina bifolia*, (Ker.) May. Pine woods. St. Croix. *Clintonia borealis*, (Raf.) Moist woods. St. Croix. *Ornithogalum umbellatum*, (Linn.) May. Fields. Davenport, Iowa. *Scilla esculenta*, (Ker.) Wild hyacinth. Fields. Davenport, Iowa. The root of this elegant flowering plant, closely resembles an onion in shape, generally attaining the size of a hickory-nut, and possessing a pleasant, mucilaginous taste. This, or a closely allied species, extends to the Rocky Mountains, and constitutes an article of diet among the Indian tribes. *Allium Canadense*, (Kalm.) Wild onion. Rich hillsides. Iowa. *Allium triflorum*, (Raf.) June. Mountain leek. Shady and rich hillsides. St. Peter's and St. Croix. *Lilium Philadelphicum*, (L.) June. Rolling prairies of Iowa and Minnesota. *Lilium Canadense*, (L.) July. Swamps. St. Peter's. *Erythronium albidum*, (Nutt.) April. Davenport, Iowa.

MELANTHACEÆ.—*Uvularia grandiflora*, (Smith.) May. Hills and vales. Iowa. *Uvularia sessifolia*, (L.) Woods and copses. Iowa. *Zigadenus glaucus*, (Nutt.) June. Prairies. St. Peter's. *Tofieldia glutinosa*, (Willd.) Moist grounds near Stillwater, Minnesota.

JUNCACEÆ.—*Juncus tenuis*, (Willd.) Moist roadsides. Common. *Juncus Conradi*, (Tuckerm.) St. Croix. *Juncus nodosus*, (L.) Edges of ponds.

PONTERERIACEÆ.—*Pontederia cordata*, (L.) Mouth of Bad River. Lake Superior.

COMMELYNACEÆ.—*Tradescantia Virginica*, (L.) Copses and grassy hills. Iowa and Minnesota.

CYPERACEÆ.—*Cyperus diandrus*, (Torr.) Sandy soil. St. Croix. *Cyperus inflexus*, (Muhl.) Moist ground. St. Croix. *Cyperus strigosus*, (L.) Edges of ponds, &c. *Cyperus filiculmis*, (Vahl.) Dry, sandy soil. St. Peter's. *Cyperus alterniflorus*, (Schwein.) Sandy ridges. St. Croix. *Dulichium spathaceum*, (Pers.) Edges of ponds. St. Croix. *Eleocharis palustris*, (R. Br.) St. Croix. *Eleocharis acicularis*, (R. Br.) St. Croix. *Scirpus lacustris*, (L.) Bulrush. In common use among the Indians for making mats. *Scirpus atrovirens*, (Muhl.) Wet, grassy places. *Scirpus Eriophorum*, (Michx.) Moist grounds. *Eriophorum Virginicum*, (L.) Cranberry marshes. *Eriophorum polystachyum*, (L.) Tamarack marshes. *Carex lanuginosa*, (Michx.) *Carex Meadii*, (Dew.) *Carex longirostris*, (Torr.) *Carex siccata*, (Dew.) *Carex aristata*, (R. Br.) *Carex varia*, (Muhl.) *Carex stricta*, (Lam.) *Carex rosea*, var. *radiata*, (Dew.) *Carex straminea*, var. *minor*, (Dew.) *Carex grisea*, (Wahl.) *Carex Sartwellii*, (Dew.) *Carex lacustris*, (Willd.) *Carex vulpinoidea*, (Michx.)

GRAMINEÆ.—*Zizania aquatica*, (L.) Wild rice. "Pshu," of the Sioux; "Manomin," of the Chippewas. This aquatic grass, not uncommon in the Northern United States, acquires in the Northwest an economical importance second to no other spontaneous production. It is the only instance in this region of a native grain, occurring in sufficient quantity to supply the wants of ordinary consumption. It is particularly abundant on the lake-like expansions of rivers, towards their sources, which give such a marked feature to the distribution of these northern streams, and is so grandly illustrated in their main type, the Mississippi. It seems to select, by preference, the lower terminations of these expansions, which generally debouch by a narrowed outlet, and considerable fall, constituting rapids. It is in these situations best exposed to the proper degree of inundation, and finds a suitable bed of the slimy sand, in which it grows most readily. It is rarely met with on inland lakes which have no outlet. As an article of food it is highly palatable and nutritious, being generally preferred to the commercial rice. The grain is long, slender, of a brown colour. In boiling, it puffs out to a pulaceous mass, and increases its bulk several times. It flowers in August, and is ready for gathering in September, which is conveniently done in canoes, the standing stalks being bent over the sides, and the grain beaten in. Its productive fields, at this season, harbour a great number of wild fowls, which obliges those who wish to secure a full crop, to anticipate the gathering season, by tying up the standing grain into bundles, which gives at the same time a claim to the crop. When gathered, it is subjected to a process of parching and thrashing, which, with the imperfect means at the command of the Indians, is the most tedious part of the business. This grain has been frequently introduced to the attention of cultivators, and is worthy of notice, not only for the value of its products, but the peculiar nature of the soil to which it is adapted, being necessarily unfit for any of our ordinary cultivated grains. As a native of the Northwest, it is undoubtedly susceptible of increased production, and will doubtless ere long constitute as important an element in the civilized wealth of this region, as it now does in adding to the comforts of its wild inhabitants. *Alopecurus geniculatus*, (L.) var. *aristulatus*. Wet places. St. Peter's. *Stipa juncea*, (L.) Porcupine grass. Rolling prairies of Iowa and Minnesota. *Aristida tuberculosa*, (Nutt.) Pine barrens. St. Croix. *Muhlenbergia glomerata*, (Trin.) St. Croix. *Vilfa heterolepis*, (Gray.) *Agrostis Michauxii*, (Trin.) *Calamagrostis Canadensis*, (Beauv.) St. Croix. *Spartina cynosuroides*, (Willd.) St. Peter's, &c. *Bouteloua racemosa*, (Lag.) Dry, exposed places. Iowa and Minnesota. *Bouteloua oligostachya*, (Torr.) Drift ridges. St. Peter's. Interior of Iowa. *Bouteloua pappilosa*, (Engelm.) Sandy hillsides. St. Croix. A lately described species. *Koeleria cristata*, (Pers.) Dry prairies. Iowa and Minnesota. *Glyceria Canadensis*, (Trin.) Bogs. St. Croix. *Poa compressa*, (L.) Blue grass. Iowa and Minnesota. An introduced grass, following closely on the steps of the pioneer husbandman. *Bromus ciliatus*, (L.) St. Croix. *Triticum repens*, (L.) Fields. Iowa. *Elymus Canadensis*, (L.) River-banks. St. Peter's. *Elymus Hystrix*, (L.) Woods. St. Peter's. *Hordeum jubatum*, (L.) Squirrel-tail grass. Dry soil. Iowa and Minnesota. *Hierochloa borealis*, (Remy and Schult.) Junction of the St. Croix and Mississippi Rivers. *Panicum capillare*, (L.) Sandy soil. Iowa. *Panicum latifolium*, (L.) Thickets.

St. Peter's. *Panicum pauciflorum*, (Ell.) *Panicum virgatum*, (L.) *Cenchrus echinatus*, (L.) Burr grass. Sandy soil. Iowa. *Andropogon furcatus*, (Muhl.) Dry prairies. Common. *Sorghum nutans*, (Gray.) Dry soil. Iowa and Minnesota.

ÆROGENS.

EQUISETACEÆ.—*Equisetum arvense*, (L.) April. Damp places. Common. *Equisetum sylvaticum*, (L.) May. St. Peter's. *Equisetum limosum*, (L.) Shallow water. St. Peter's and St. Croix. *Equisetum hyemale*, (L.) Scouring rush. Very abundant, and rank, on the wooded banks of the St. Peter's, above high-water mark. *Equisetum variegatum*, (Schleicher.) Margins of Montreal River, Lake Superior. *Equisetum scirpoides*, (Michx.) Deep woods. St. Croix.

FILICES.—*Polypodium vulgare*, (L.) Crevices of exposed rocks of every character. St. Peter's and St. Croix. *Polypodium Phegopteris*, (L.) Damp woods. St. Croix. *Polypodium Dryopteris*, (L.) Damp woods, under the shade of evergreens. St. Croix and Lake Superior. *Struthiopteris Germanica*, (Willd.) Alluvial soil, exceedingly rank on the bottoms of the Lower St. Peter's. *Allosorus gracilis*, (Presl.) Shaded rocks, Davenport, Iowa, Blue Earth River, head of Lake St. Croix. *Pteris Aquilina*, (L.) Common brake. Dry soil. *Pteris atropurpurea*, (L.) Attached principally to the Magnusian Limestones, Upper and Lower. *Adiantum pedatum*, (L.) Maiden-hair. Common. *Camptosorus rhizophyllus*, (Link.) Walking fern. Shaded and detached rocks, Falls of St. Croix. This fern sends forth roots at the extremity of each prolonged leaf, producing a bunch similar to the parent root, whence its name of walking-fern. *Asplenium thelypteroides*, (Michx.) Shady woods. St. Croix. *Asplenium Filix-femina*, (R. Br.) Moist woods. Common. *Cystopteris bulbifera*, (Bernh.) Wet rocks. Blue Earth River. *Cystopteris fragilis*, (Bern.) Shaded cliffs, St. Peter's and St. Croix. *Woodsia obtusa*, (Torr.) Trap-rocks. Falls of St. Croix. *Woodsia Ilvensis*, (R. Br.) Exposed granite and quartzite rocks. Upper St. Peter's. *Cheilanthes vestita*, (Willd.) Rocks. Falls of St. Croix. *Dryopteris Thelypteris*, (Gray.) Moist thickets. St. Croix. *Dryopteris dilatata*, (Gray.) Ravines. Falls of St. Croix. *Dryopteris cristata*, (Gray.) Alder swamps. St. Croix. *Aspidium fragrans*, (Sw.) Trap-rocks. Falls of St. Croix. Frond bipinnate, oblong-lanceolate; pinnae oblong, slightly tapering to a very obtuse point, regularly opposite and alternate, closely set on the stipe; pinules oblong, obtuse, round-toothed. Sori attached in two rows, corresponding to the lobes formed by the teeth, nearer the midrib than margins of the pinnae, mostly covering the lower surface of the frond; stipe thickly clothed at its lower part with brownish, unequal, ovate-acuminate scales. The whole fern beset with fragrant, glandular hairs. Growing in dense tufts, in the shaded crevices of trap-rocks, with the withered remains of several years' growth still adhering. The fronds are of a deep green colour above, paler below, four to nine inches high. The aroma is permanent and agreeable. I am informed by Dr. Torrey that this species has never before been found within the limits of the United States, but has been obtained in British America and Kamtschatka, where it is used for making tea. In the locality here specified, it is quite abundant. *Polystichum acrostichoides*, (Schott.) Shady river-banks. Davenport, Iowa, and Fort Snelling. *Onoclea sensibilis*, (L.) Moist, springy places. Common. *Osmunda spectabilis*, (Willd.) Swamps. Upper St. Croix. *Osmunda Claytoniana*, (L.) Rich hillsides. St. Croix. *Botrychium lunarioides*, (Sw.) Low grounds. St. Croix. *Botrychium Virginicum*, (Sw.) Rich woods. St. Peter's.

LYCOPODIACEÆ.—*Lycopodium lucidulum*, (Michx.) Deep woods. St. Croix. *Lycopodium annotinum*, (L.) Woods. Lake Superior. *Lycopodium clavatum*, (L.) Upper St. Croix. *Lycopodium dendroideum*, (Michx.) Upper St. Croix. *Lycopodium complanatum*, (L.) Pine barrens. St. Croix. *Selaginella rupestris*, (Spring.) Exposed granite rocks, Upper St. Peter's; trap rocks, Falls of St. Croix.

MUSCI.—*Sphagnum cymbifolium*, (Ehrh.) Cranberry marshes. *Dicranum scoparium*, (Hedw.) Lake Superior. *Leucobryum vulgare*, (Hampe.) Trap rocks. St. Croix. *Atrichum angustatum*, (Beauv.) Lake Superior. *Bartramia pomiformis*, (Hedw.) Montreal River. *Mnium punctatum*, (Hedw.) Cedar swamps. St. Croix. *Mnium affine*, (Blandon.) Decaying logs. Lake Superior. *Bryum roseum*, (Schreb.) Lake Superior. *Isotherum minus*, (Beauv.) Adhering to the trunk of the Swamp Ash. *Hypnum populeum*, (Hedw.) Red sand-rock. Lake Superior. *Hypnum Schreberi*,

* Determined by William S. Sullivan, of Columbus, Ohio.

(Willd.) Lake Superior. *Hypnum tamariscinum*, (Hedw.) Decaying logs. Lake Superior. *Climacium dendroides*, (Brid.) Matting, deep woods. Lake Superior.

HEPATICÆ.—*Marchantia polymorpha*, (L.) Margins of brooks.

LICHENES.—*Cladonia rangiferina*, (Hoff.) Reindeer moss. Falls of St. Croix. Lake Superior. *Gyrophora Muhlenbergii*. Tripe de roche of the French voyageurs. Falls of St. Croix.

ARTICLE VI.

SYSTEMATIC CATALOGUE OF BIRDS OBSERVED IN NORTHERN WISCONSIN AND MINNESOTA.

BY HENRY PRATTEN.

ORDER I. ACCIPITRES.

FALCONIDÆ.—*Aquila*, Brisson. The Golden Eagle, *Aquila Chrysætos*, Giraud. *Haliaetos*, Savigny. The Brown or Bald Eagle, *Haliaetos Leucocephalus*, Wilson. *Buteo*, Bechstein. Red-tailed, Hawk or Buzzard, *Buteo Borealis*, Gmelin. *Nauclerus*, Vigors. Swallow-tailed Hawk, *Nauclerus Furcatus*, Wilson. Falco, Linnæus. American Sparrow-hawk, *Falco Sparverius*, Bonaparte. Circus, Bechstein. Marsh Harrier, *Circus Uliginosus*, Wilson.

STRIGIDÆ.—*Bubo*, Cuvier. The Great Horned Owl, *Bubo Virginianus*, Gmelin. The Little Screech Owl, *Bubo Asio*, Wilson. *Ulula*, Cuvier. The Barred Owl, *Ulula Nebulosa*, Linnæus.

ORDER II. PASSERES.

CAPRIMULGIDÆ.—*Caprimulgus* of Linnæus. The Whippoorwill, *Caprimulgus Vociferus*, Wilson. *Chordeiles*, Swainson. Night Hawk, *Chordeiles Americanus*, Wilson.

HIRUNDINIDÆ.—*Hirundo*, Linnæus. The Purple Martin, *Hirundo purpurea*, Linn., Gmelin. The White-bellied Swallow, *Hirundo Bicolor*, Vieillot. The Bank Swallow, *Hirundo Riparia*, Wilson, Bonap. The Cliff Swallow, *Hirundo Fulva*, Vieillot, Clinton, Bonaparte. On the Blue Earth River in great numbers.

AMPELIDÆ.—*Bombycilla*, Brisson. The Cedar Bird, *Bombycilla Carolinensis*, Bonaparte.

ALCEDINIDÆ.—*Alcedo*, Linnæus. The Belted Kingfisher, *Alcedo Aleyon*, Linnæus. *Trochilus*, Linnæus. The Red-Throated Humming-Bird, *Trochilus Colubris*, Linn.

CERTHIDÆ.—*Sitta*, Linnæus. The White-breasted Nuthatch, *Sitta Carolinensis*, Brisson. *Troglodytes*, Vieillot, Cuvier. The Wood Wren, *Troglodytes Americanus*, Audubon. The Mocking Wren, *Troglodytes Ludovicianus*, Bonaparte. Above Little Rock, on St. Peter's. The Short-billed Wren, *Troglodytes Brevirostris*, Nuttall.

PARIDÆ.—*Parus*, Linnæus. The Black Cap Tit, *Parus Atricapillus*, Linnæus.

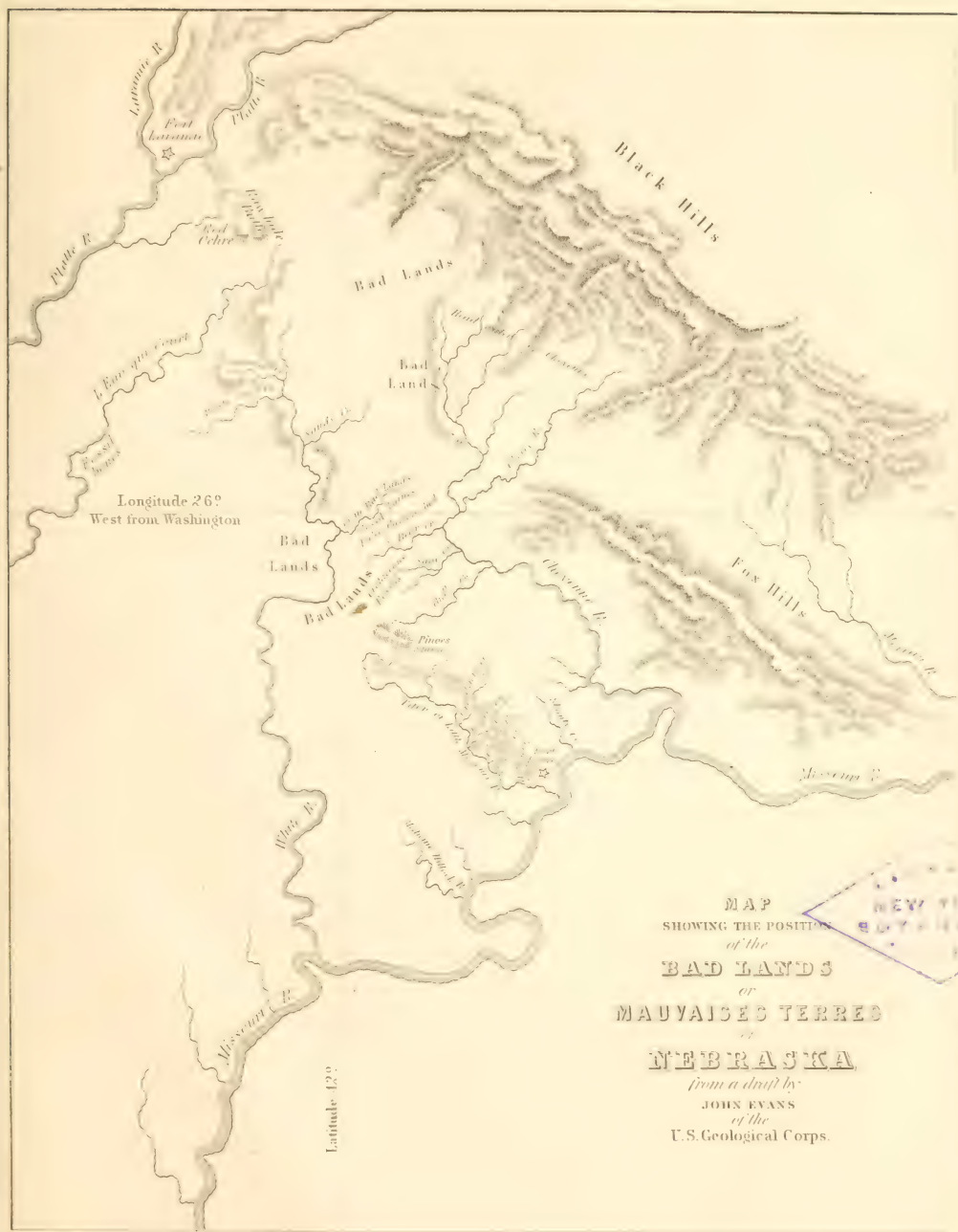
SYLVIADÆ.—*Sialia*, Swainson. The Blue-bird, *Sialia Wilsoni*, Swainson.

MERULIDÆ.—*Orpheus*, Swainson. The Brown Thrush. *Orpheus Rufus*, Bonaparte. The Cat Bird. *Orpheus Carolinensis*, Linnæus, Giraud. *Merula*, Ray. American Robin, *Merula migratoria*, Linnæus, Richardson. The Wood Thrush, *Merula Mustelina*, Gmelin, Bonaparte. Blue Earth River. The Hermit Thrush, *Merula Solitaria*, Wilson, Richardson. Blue Earth River. *Seiurus*, Swainson. The Oven Bird, *Seiurus Aurocapillus*, Linnæus.

SYLVICOLIDÆ.—*Trichas*, Swainson. The Yellow Throat. *Trichas Marilandica*, Wilson, Audubon. *Vermivora*, Swainson. The Golden-winged Warbler, *Vermivora Chrysoptera*, Linnæus. *Sylvicola*, Swainson. The Spotted Warbler, *Sylvicola Maculosa*, Gmelin. The Spotted Canada Warbler, *Sylvicola Pardalina*, Bonaparte. The Blackburnian Warbler, *Sylvicola Blackburniæ*, Lathm. The Summer Yellow Bird. *Sylvicola Æstiva*, Gmelin. The Chestnut-sided Warbler, *Sylvicola Icterocephala*, Linnæus.

MUSCICAPIDÆ.—*Muscicapa*, Linnæus. The American Redstart, *Muscicapa Raticilla*, Linnæus. The Wood Pewee, *Muscicapa Virens*, Linnæus. *Tyrannus*, Vieillot. The King Bird, *Tyrannus Intrepidus*, Vieillot. The Great Crested King Bird, *Tyrannus Crinitus*, Linnæus.

VIREONIDÆ.—*Vireo*, Vieillot. The Red-eyed Greenlet, *Vireo Olivaceus*. *Icteria*, Vieillot. The Yellow-breasted Chat. *Icteria Viridis*, Gmelin, Bonaparte.



MAP
 SHOWING THE POSITION
of the
BAD LANDS
or
MAUVAISES TERRES
of
NEBRASKA
from a draft by
 JOHN EVANS
of the
 U.S. Geological Corps.



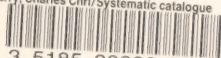




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